

CLAIMS

What is claimed is:

1. 1. A method of migrating a database from a first server to a second server while continuing
2. to provide transaction service, the method comprising the steps of:
3. providing transaction service on the first server;
4. establishing a database copy on the second server;
5. logging at least one transaction from the first server to create a transaction log;
6. executing the at least one logged transaction on the second server;
7. queuing at least one transaction request;
8. executing the at least one queued transaction request on the second server; and
9. providing transaction service on the second server.
10. 2. The method of claim 1, wherein the step of providing transaction service on the first
11. server ceases prior to the step of queuing at least one transaction request.
12. 3. The method of claim 1, further comprising the step of repeating the steps of logging at
13. least one transaction and executing the at least one logged transaction on the second
14. server prior to the step of queuing.
15. 4. The method of claim 3, wherein a time duration of each repeating step is shorter than a
16. preceding repeating step.

1 5. The method of claim 3, wherein a number of logged transactions executed during each
2 repeating step is smaller than a preceding repeating step.

1 6. The method of claim 1, wherein the step of establishing a database copy on the second
2 server includes transmitting of a database backup from the first server over a network.

7. The method of claim 6, wherein the network is the Internet.

8. The method of claim 1, further comprising the step of transmitting the transaction log to
the second server over a network.

9. The method of claim 8, wherein the network is the Internet.

10. The method of claim 1, wherein the step of queuing takes place at the first server.

11. The method of claim 1, wherein the step of queuing takes place at the second server.

1 12. The method of claim 1, further comprising the step of transmitting an application from
2 the first server to the second server.

1 13. A method of providing continuous transaction service while migrating a database from a
2 source to a target, the method comprising the steps of:
3 providing transaction service on a server that accesses the source;
4 establishing a copy of the database on the target;
5 updating the database copy at least one time by:
6 logging at least one transaction from the server that accesses the source to
7 create a transaction log, and
8 executing the at least one logged transaction on a server that accesses the
9 target;
10 queueing at least one transaction request;
11 executing the at least one queued transaction request on the server that accesses
12 the target; and
13 providing transaction service on the server that accesses the target.

1 14. The method of claim 13, wherein the server that accesses the source and the server that
2 accesses the target are the same server.

1 15. The method of claim 13, wherein the server that accesses the source and the source are
2 discrete.

1 16. The method of claim 13, wherein the server that accesses the target and the target are
2 discrete.

1 17. The method of claim 13, wherein a time duration of each updating step is shorter than a
2 preceding updating step.

1 18. The method of claim 13, wherein a number of logged transactions executed during each
2 updating step is smaller than a preceding updating step.

1 19. The method of claim 13, wherein the step of establishing a database copy on the server
2 that accesses the target includes transmitting of a database backup from the source server
 over a network.

1 20. The method of claim 19, wherein the network is the Internet.

1 21. The method of claim 13, further comprising the step of transmitting the transaction log to
2 the target server over a network.

22. The method of claim 21, wherein the network is the Internet.

1 23. The method of claim 13, wherein the step of queuing takes place at the server that
2 accesses the source.

1 24. The method of claim 13, wherein the step of queuing takes place at the server that
2 accesses the target.

25. The method of claim 13, wherein at least one of the server is connected to a network.

26. The method of claim 25, wherein the network is the Internet.

4 establishing an initial copy of the database on the target;

5 updating the initial copy at least one time by:

6 logging at least one transaction from a server that accesses the source to

7 create a transaction log, and

executing the at least one logged transaction on a server that accesses the

target;

queuing at least one transaction request; and

executing the at least one queued transaction request on the server that accesses

the target.

28. The method of claim 27, wherein the server that accesses the source and the server that
accesses the target are the same server.

1 31. A system for migrating a database from a first server to a second server while continuing
2 to provide transaction service, each server including an application that interacts with the
3 database during execution of a transaction, the system comprising:
4 a copy module that establishes a database copy on the second server;
5 an updating module that updates the database copy at least one time by:
6 logging at least one transaction from the first server received since any
7 immediately preceding synchronization to create a transaction log;
8 executing the at least one logged transaction on the second server; and
9 a transition module that queues at least one transaction request, and executes the
10 at least one queued transaction request on the second server.

11 32. The system of claim 31, wherein the copy module establishes the database copy by
12 transmitting a backup of the database over a network to the second server.

13 33. The system of claim 31, wherein a time duration of each activation of the updating
14 module is shorter than a preceding activation.

15 34. The system of claim 31, wherein a number of logged transactions executed during each
16 activation of the updating module is smaller than an immediately preceding activation of
17 the updating module.

38. The system of claim 31, wherein the transition module is activated after a time duration that the updating module is activated reaches a set point.

39. The system of claim 31, wherein the transition module is activated after a number of logged transactions reaches a set point.

1 40. A system for migrating a database from a first server to a second server while continuing
2 to provide transaction service, each server including an application that interacts with the
3 database during execution of a transaction, the system comprising:
4 means for establishing a database copy on the second server;
5 means for logging at least one transaction from the first server to create a
6 transaction log;
7 means for executing the at least one logged transaction on the second server;
8 means for queuing at least one transaction request; and
9 means for executing the at least one queued transaction request on the second
10 server.

1 41. A computer program product comprising a computer useable medium having computer
2 readable program code embodied therein for migrating a database from a first server to a
3 second server while continuing to provide transaction service, each server including an
4 application that interacts with the database during execution of a transaction, the
5 computer program product comprising:
6 program code configured to establish a database copy on the second server;
7 program code configured to update the database copy at least one time by:
8 logging at least one transaction from the first server to create a transaction
9 log, and
10 executing the at least one logged transaction on the second server;
11 program code configured to queue at least one transaction request; and
12 program code configured to execute the at least one queued transaction request on
13 the second server.

1 42. A system for providing continuous transaction service while migrating a database, the
2 system comprising:
3 a source server for providing transaction services;
4 a target server for providing transaction services;
5 a copy module that establishes a database copy on the target server;
6 an updating module that updates the database copy at least one time by:
7 logging at least one transaction from the source server received since any
8 immediately preceding synchronization to create a transaction log;
9 executing the at least one logged transaction on the target server; and
10 a transition module that queues at least one transaction request, and executes the
11 at least one queued transaction request on the target server.

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13 43. The system of claim 42, wherein the copy module establishes the database copy by
14 transmitting a backup of the database over a network to the target server.

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16 44. The system of claim 42, wherein a time duration of each activation of the updating
17 module is shorter than a preceding activation.

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19 45. The system of claim 42, wherein a number of logged transactions executed during each
20 activation of the updating module is smaller than an immediately preceding activation of
21 the updating module.

49. The system of claim 42, wherein the transaction module is activated after a time duration that the updating module is activated reaches a set point.

50. The system of claim 42, wherein the transition module is activated after a number of logged transactions reaches a set point.